

WEDNESDAY, MAY 15, 2002

7:00 a.m. **Registration/Continental Breakfast** - Grand Ballroom Foyer

Grand Ballroom

7:50 a.m. **Welcoming Remarks and Introduction of Keynote Speaker**
Thomas A. Sarkus, Conference Chair
Division Director, Coal Power Products Division
U.S. Department of Energy, National Energy Technology Laboratory

8:00 a.m. **Keynote Address:** "AFTER THE BOOM: LIFE IN A POST 9/11 WORLD"
Brian Schimmoller, *Managing Editor, Power Engineering Magazine*

Emissions Regulations

Moderator: William Cummings, *Fuel Tech*

8:30 a.m. EPA UPDATE ON NO_x REGULATION
Mary Jo Krolewski and Kevin Culligan, *U.S. Environmental Protection Agency*

9:00 a.m. STATUS OF MULTI-EMISSIONS REQUIREMENTS FOR THE POWER INDUSTRY
Robert LaCount, *PG&E National Energy Group*

9:30 a.m. **Break** - Grand Ballroom Foyer

Economics of NO_x Emissions Reduction

10:00 a.m. TAX SAVINGS STRATEGIES FOR SCR/SNCR PROJECT PLANNING
Kathryn L. Tronsberg and Joseph D. Zenk, *Deloitte & Touche, LLP*

Emissions Trading

10:30 a.m. NO_x EMISSIONS TRADING IN THE NORTHEAST: TRENDS AND OUTLOOK
Alex Farrell, *Carnegie Mellon University*

11:00 a.m. NO_x EMISSIONS TRADING MARKETS - UNDERSTANDING HOW TO USE THEM IN YOUR STRATEGIC PLANNING
James E. Staudt, *Andover Technology Partners*

11:30 a.m. DYNAMICS OF TRADING IN THE NO_x ALLOWANCE MARKET
Matt Williamson, *Natsource LLC*

12:00 noon **Lunch (on your own)**

1:00 p.m. **Poster Session** - Grand Ballroom Foyer

Risk Issues in Commercial Application of NO_x Reduction Technologies

Moderator: Alex Farrell, *Carnegie Mellon University*

1:30 p.m. RISK MITIGATION AND SCR/SNCR: COMPATIBLE OR MUTUALLY EXCLUSIVE ?
Robert Sansone, *XL Winterthur International*

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Non-Coal Applications of NO_x Reduction Technologies

- 2:00 p.m. EMx CATALYTIC ABSORPTION SYSTEM
Greg Wagner and Steve DeCicco, *EmeraChem LLC*
- 2:30 p.m. SCR CATALYST FOR SIMULTANEOUS CONTROL OF NO_x, CO, AND NON-METHANE HYDROCARBON EMISSIONS FROM GAS-FIRED POWER PLANTS
William B. Feaver, Harvey S. Rosenberg, and Joseph A. Rossin
Guild Associates, Inc.
- 3:00 p.m. **Break** - Grand Ballroom Foyer
- 3:30 p.m. NEXT GENERATION ULTRA-LOW NO_x BURNERS FOR REFINERY AND PETROCHEMICAL PROCESS HEATERS
R.T. Waibel, R.R. Hayes, R. Poe, and M. Zimola, *John Zink Company, LLC*
- 4:00 p.m. NO_x EMISSIONS SOLUTIONS FOR GAS TURBINES
Kevin A. Carpenter, *Siemens Westinghouse Power Corporation*
- 4:30 p.m. HIGH TEMPERATURE SCR SYSTEMS ON FRAME SIZE COMBUSTION TURBINES
Jef Potters, *Hamon Research-Cottrell*
- 5:00 p.m. **Adjourn**

THURSDAY, MAY 16, 2002

Track 1 - Salon 1,2 and 3

- 7:00 a.m. **Registration/Continental Breakfast**

Commercial Applications of Selective Catalytic Reduction (SCR)

- Moderator:** Anupam Sanyal, *International Environmental & Energy Consultants*
- 7:30 a.m. EFFECTS OF FUEL CHARACTERISTICS ON SCR INSTALLATIONS
W. Scott Hinton, *Foster Wheeler Energy Corporation*
- 8:00 a.m. SOMERSET SCR EXPERIENCE AFTER THREE OPERATING OZONE SEASONS
Donald P. Tonn, *Babcock & Wilcox Company*, and Kevin R. Robison, *AES Somerset*
- 8:30 a.m. SCR INLET MALDISTRIBUTIONS - THEIR EFFECTS & STRATEGIES FOR THEIR CONTROL
Kevin J. Rogers, *Babcock & Wilcox Company*
- 9:00 a.m. HIGH EFFICIENCY AMMONIA INJECTION GRID (AIG) FOR SCR SYSTEMS
Richard Budin and Klaus Weigl, *Integral Umwelt- und Anlagentechnik GmbH*
- 9:30 a.m. **Break** - Grand Ballroom Foyer
- 10:00 a.m. INCREASED SO₃ AND AMMONIA SLIP FROM SCR: BALANCING AIR HEATER DEPOSITS, AMMONIA IN EFFLUENT DISCHARGE, AND SO₃ PLUME
Thomas L. Wright and Michael R. DeLallo, *Parsons Energy & Chemicals Group, Inc.*

THURSDAY, MAY 16, 2002

Commercial Applications of Selective Catalytic Reduction (SCR) (Continued)

- 10:30 a.m. CURRENT WORK ON THE IMPACTS AND CONTROL OF SO₃ EMISSIONS FROM SELECTIVE CATALYTIC REDUCTION SYSTEMS
Clayton A. Erickson and Rajaram Jambhekar, *Babcock Borsig Power, Inc.*
- 11:00 a.m. THE IMPACT OF ARSENIC ON COAL FIRED POWER PLANTS EQUIPPED WITH SCR - EXPERIENCE AT OUC STANTON
James E. Staudt, *Andover Technology Partners*
Tony Engelmeyer, *Orlando Utilities Commission*
William H. Weston, *Alabama Power Company*
Ralf Sigling, *Siemens Westinghouse Power Corporation*
- 11:30 a.m. SCR CATALYST PERFORMANCE ON U.S. COAL FIRED BOILERS
Julie Crowe, *Hitachi Zosen Engineering U.S.A. Ltd.*
Masayoshi Ichiki, *Hitachi Zosen Corporation*
- 12:00 noon **Lunch (on your own)**
- 1:00 p.m. **Poster Session** - Grand Ballroom Foyer
- Moderator:** Scott Hinton, *Foster Wheeler Energy Corporation*
- 1:30 p.m. LESSONS LEARNED FROM SCR EXPERIENCE OF JAPAN, EUROPE, AND U.S.A. -- ARE THESE ENOUGH?
Anupam Sanyal, *International Environmental & Energy Consultants, Inc.*
William Ellison, *Ellison Consultants*
- 2:00 p.m. EFFECTS OF MERCURY ON SCR CATALYSTS
Michael J.T. Hocquel, Sven Unterberger, and Klaus R.G. Hein
Institute of Process Engineering and Power Plant Technology
- 2:30 p.m. FACTORS AFFECTING SELECTION OF A CATALYST MANAGEMENT STRATEGY: AN INDEPENDENT PERSPECTIVE
Ed Cichanowicz, *J.E. Cichanowicz, Inc*
L.J. Muzio, *Fossil Energy Research Corporation*
- 3:00 p.m. **Break** - Grand Ballroom Foyer
- 3:30 p.m. O&M COST REDUCTION OF A COAL-FIRED U.S. MERCHANT PLANT THROUGH AN OPTIMIZED SCR MANAGEMENT STRATEGY INVOLVING CATALYST REGENERATION
Douglas Bullock, *PG&E National Energy Group*
Hans-Ulrich Hartenstein, *SCR-Tech LLC*
- 4:00 p.m. SCR CATALYST MANAGEMENT: LESSONS LEARNED
Fiorenzo Bregani and Gian Pietro Toledo, *CESI Spa*
Davide D'Angelo and Ugo Giancola, *Enel Produzione Spa*
- 4:30 p.m. NEW DEVELOPMENT OF DE-NO_x SCR CATALYST USING SPENT PETROLEUM CATALYST
Sangho Lee, Youngshol Kim, Junseong Ahn, and Jonghyun Kim
Taedok Institute of Technology, SK Corporation
- 5:00 p.m. **Adjourn**

THURSDAY, MAY 16, 2002

Track 2 - Salon 4,5,6

7:00 a.m. **Registration/Continental Breakfast** - Grand Ballroom Foyer

Commercial Applications of Selective Non-Catalytic Reduction (SNCR)

Moderator: John Boyle, *Fuel Tech*

7:30 a.m. ECONOMIC OPTIMIZATION OF SNCR AT THE SCRUBGRASS POWER PLANT
Philip A. Jones, *PG&E National Energy Group*

8:00 a.m. DEMONSTRATION OF SNCR TRIM ON A 185 MW TANGENTIAL DESIGN COAL-FIRED UTILITY BOILER
Richard Himes, *EPRI*
Greg Quartucy, *FERCo*
Marc Cremer, *REI*
William Sun, *Fuel Tech, Inc.*

8:30 a.m. COST-EFFECTIVE CONTROL OF NO_x WITH INTEGRATED ULTRA LOW-NO_x BURNERS AND SNCR
Hamid Farzan and Jennifer Sivy, *McDermott Technology, Inc.*
John M. Boyle, *Fuel Tech, Inc.*
Albert D. LaRue and Paul S. Nolan, *Babcock & Wilcox Company*

9:00 a.m. DEMONSTRATION OF RICH REAGENT INJECTION IN AMEREN'S SIOUX UNIT 1
Marc A. Cremer and Bradley R. Adams, *Reaction Engineering International*
David E. Boll, *AmerenUE*
David O'Connor, *EPRI*
Robert D. Slaff, *Oceanside Engineering and Manufacturing*

9:30 a.m. **Break** - Grand Ballroom Foyer

10:00 a.m. SNCR SYSTEM - DESIGN, INSTALLATION, AND OPERATING EXPERIENCE
David L. Wojichowski, *De-NO_x Technologies LLC*

Reagent Considerations

10:30 a.m. SNCR REAGENT SUPPLY ALTERNATIVES AND COST MINIMIZATION
David L. Wojichowski, *De-NO_x Technologies LLC*
James T. Egan, *Colonial Chemical Company*

11:00 a.m. STANDARDIZED DESIGNS FOR THIRD GENERATION AMMONIA-ON-DEMAND™ SYSTEMS AT AEP'S AMOS AND MOUNTAINEER PLANTS
Hamilton G. Walker, Jr., *Environmental Elements Corporation*

11:30 a.m. LABORATORY RESULTS ON AMMONIA REMOVAL FROM FLY ASH USING AN ACOUSTICALLY ENHANCED FLUIDIZED BED
Edward K. Levy and Kenneth B. Lawton, *Lehigh University*

12:00 noon **Lunch (on your own)**

1:00 p.m. **Poster Session** - Grand Ballroom Foyer

THURSDAY, MAY 16, 2002

Alternative NO_x Control Technologies

Moderator: Edward Levy, *Lehigh University*

- 1:30 p.m. SELECTIVE AUTOCATALYTIC NO_x REDUCTION (SACR)
G. Hesselmann and D. Hough, *Mitsui Babcock*
- 2:00 p.m. ADVANCED COMBUSTION TECHNOLOGIES AS AN ALTERNATIVE TO FLUE GAS CLEANUP SYSTEMS FOR HIGH LEVELS OF NO_x REDUCTION
Timothy Webster and Lev Tsurulnikov, *John Zink Company LLC*
- 2:30 p.m. DEVELOPMENT OF AN ULTRA-LOW NO_x INTEGRATED SYSTEM FOR PULVERIZED COAL FIRED POWER PLANTS
Galen H. Richards, John L. Marion, Charles Q. Maney, Robert D. Lewis, and Doug Hart, *ALSTOM Power, Inc.*
- 3:00 p.m. **Break** - Grand Ballroom Foyer
- 3:30 p.m. INTEGRATION OF COAL GASIFICATION AND REBURNING
Vitali V. Lissianski, Vladimir M. Zamansky, and Peter M. Maly, *General Electric Energy and Environmental Research Corp.*
- 4:00 p.m. DEVELOPMENT AND TESTING OF A NOVEL COAL PREHEATING TECHNOLOGY FOR NO_x REDUCTION FROM PULVERIZED COAL-FIRED BOILERS
Sergei Nester, Stan Wohadlo, Joseph Rabovitser, and Bruce Bryan, *Gas Technology Institute*
Dmitri Boulanov, Anatoly G. Tumanovsky, Eugene N. Tolchinsky, and Edward H. Verbovetsky, *All-Russian Thermal Engineering Institute*
Robert Lissauskas, Roderick Beittel, and Terrence Ake, *Babcock Borsig Power, Inc.*
Presenter: John Pratapas, *Gas Technology Institute*
- 4:30 p.m. OXYGEN ENHANCED COMBUSTION FOR NO_x CONTROL
Lawrence E. Bool III and Hisashi Kobayashi, *Praxair, Inc.*
- 5:00 p.m. **Adjourn**

Poster Presentations

USE OF ROFA AND ROTAMIX SYSTEMS TO REDUCE NO_x IN COAL BURNING POWER PLANTS

John Ralston and Edwin Haddad, *Mobotec USA*

ADVANCED CONTROL AND OPTIMIZATION SOLUTION FOR DYNAMIC CONTROL OF SCR SYSTEMS

Neel J. Parikh and Jim Donegan, *Pegasus Technologies, Inc.*

PIN PILESSM: FOUNDATIONS FOR SCR RETROFITS

Martin G. Taube, *Nicholson Construction Company*

HIGH ACTIVITY MAGNESIA USE FOR SCR RELATED SO₃ PROBLEMS

Paul A. Schmidtchen, Michael J. Hatem, David E. Lombardi, Dave Smith, and Mark Wajer
Martin Marietta Magnesia Specialties LLC

FLUE GAS SO₃ DETERMINATION - IMPORTANCE OF ACCURATE MEASUREMENTS IN LIGHT OF RECENT SCR MARKET GROWTH

Jack Bionda, *Clean Air Engineering*

THURSDAY, MAY 16, 2002

Poster Presentations (Continued)

SECONDARY PLUME ABATEMENT

Ron Hawks and Robert G. McCullough, *Environmental Quality Management, Inc.*

SCR CATALYST BLINDING FOR SUBBITUMINOUS AND LIGNITIC COALS: FIELD RESULTS

Jason D. Laumb and Steven A. Benson, *Energy & Environmental Research Center*

CALIBRATION GASES FOR SCR AND SNCR PROCESS AND ENVIRONMENTAL INSTRUMENTATION

Stephen B. Mandel and Mark Incollingo, *Spectra Gases, Inc.*

SCR DEACTIVATION MECHANISMS RELATED TO ALKALI AND ALKALINE EARTH ELEMENTS

C. Senior, K. Davis, and M. Bockelie, *Reaction Engineering International*

L. Baxter and C. Bartholomew, *Brigham Young University*

K. Whitty and E. Eddings, *University of Utah*

The Impact of Arsenic on Coal Fired Power Plants Equipped with SCR - Experience at OUC Station

James E. Staudt, *Andover Technology Partners*

Tony Engelmeyer, *Orlando Utilities Commission*

William H. Weston, *Alabama Power Company*

Ralf Sigling, *Siemens Westinghouse Power Corporation*

NO_x Emissions Trading Markets - Understanding How to Use Them in Your Strategic Planning

James E. Staudt, *Andover Technology Partners*

A Collaborative Project for the Improvement of Combustion Efficiency in Utility Boilers

Peter Stephenson, *Innogy, PLC*

U₂A™ - Urea to Ammonia Technology

Mario Gialanella, *Hamon Research-Cottrell*

H. James Peters, *Hamon Research-Cottrell/Wahlco*

High Efficiency Ammonia Injection Grid (AIG) for SCR Systems

Richard Budin and Klaus Weigl, *INTEGRAL Umwelt- und Anlagentechnik GmbH*

Presenter: Ansgar Aspalter, *INTEGRAL Umwelt- und Anlagentechnik GmbH*

Development of Continuous NO_x Monitoring Technology for Spatially Resolved, Real-Time SCR Control

Joel Brand and Aron Gaus, *Brand-Gaus, LLC*

PROJECT CONDOR: INVESTIGATION OF LOW NO_x CONTROL TECHNOLOGY OPTIONS

Mildred Perry, Gilbert McGurl, Gerst Gibbon, Thomas J. Feeley III, and Dennis Smith

U.S. Department of Energy, National Energy Technology Laboratory

NETL'S NO_x CONTROL PROGRAM

Bruce W. Lani and Thomas J. Feeley III

U.S. Department of Energy, National Energy Technology Laboratory